

CC1A-T1A

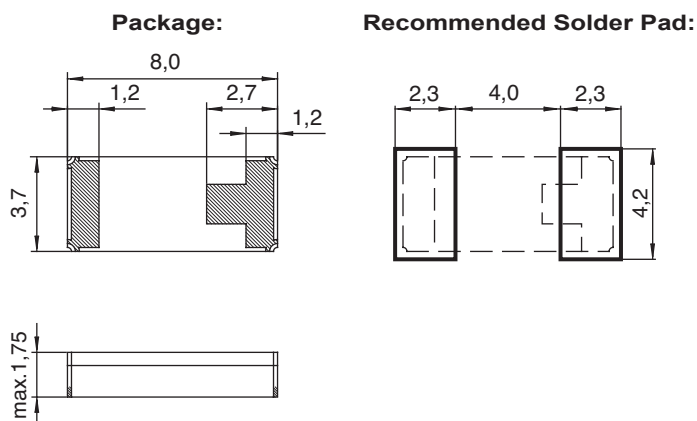
AT Crystal 8 MHz – 30 MHz



100% leadfree, RoHS - compliant

SMT ceramic package height 1.75 mm
Fundamental mode up to 30MHz
Ind. and Ext. temperature ranges
High stability and low aging
High shock and vibration resistance
Hermetically sealed
Ultra low MSL
Excellent solderability
Swiss made quality
Customer specification on request

DIMENSIONS



All dimensions in mm typical

DESCRIPTION:

This quartz Crystal in SMD ceramic package has been specially designed with Micro Crystal photolithographic process for surface mount using infrared, vapor phase or epoxy techniques

APPLICATIONS:

- Avionics
- Radio transceiver
- Satellite communications
- Airborne equipments

The crystals are supplied in trays (100 crystals per tray).

For pick-and-place equipment, the parts are available in 16mm tapes:

- 7" with 1'000 crystals
- 10" with 2'000 crystals

ELECTRICAL CHARACTERISTICS AT 25°C:

Frequency Range	F_L	8–30	MHz
Load capacitance ¹⁾	C_L	20.0	pF
Frequency tolerance at +25°C ²⁾	$\Delta F/F$	+/-50	ppm
Frequency versus temperature ³⁾ TB: -40 to +85°C TC: -55 to +125°C	$\Delta F/F_0$	+/-50 +/-100	ppm
Drive level typ/max	P	100 / 500	μW
Insulation resistance min.	R_i	500	MΩ
Aging first year max.	$\Delta F/F$	+/-3	ppm

1) Other load capacitances on request.

2) Tighter and wider frequency tolerances on request.

3) Tighter thermal stability on request.

Frequency [MHz]	$R_s[\Omega]$ typ / max	C_1 [fF] typ / max	C_0 [pF] typ
8 to < 10	60 / 100	4 / 7	2
10 to < 12	50 / 85	5 / 8	2.2
12 to < 16	40 / 75	6 / 10	2.5
16 to < 20	35 / 60	8 / 11	2.8
20 to < 24	30 / 50	9 / 13	3.2
24 to ≤ 30	30 / 40	11 / 15	4

STANDARD FREQUENCIES:

Frequency MHz						
8.0000	10.0000	10.1506	11.0592	12.0000	12.288	13.56
14.3181	14.7456	16.0000	16.3840	18.432	20.0000	24.0000
Other frequencies from 8 MHz up to 30 MHz on request						

**ENVIRONMENTAL
CHARACTERISTICS:**

	Conditions
Storage temp. range	-55 to +125°C
TB Operating temperature range	-40 to +85°C
TC Extended oper. temp. range	-55 to +125°C
Shock resistance	5000 g, 0.3 ms, ½ sine
Vibration resistance	20 g / 10–2000 Hz

**TERMINATIONS AND
PROCESSING:**

Type	Termination	Processing
CC1A-T1A	For SMD mounting Au plated pads	Reflow soldering +260°C / 20 s max.
CC1A-T3A	For SMD mounting Sn/Ag/Cu plated	Reflow soldering +260°C / 20 s max.

**PRODUCT DESCRIPTION AND
ORDERING INFORMATION:**

CC1A-T1A		24.0 MHz	20.0pF	+/-50ppm	TB	QI
<u>Frequency F_L</u>						
<u>C_L Load Capacitance</u>						
16.0 pF						
20.0 pF						
<u>Frequency tolerance</u>						
+/- 50 ppm						
+/- 100 ppm						
		<u>Temperature Range</u>				
		TB = -40 to +85°C (Standard)				
		TC = -55 to +125°C				
Optional: if not defined, 'Standard' will apply		<u>Qualification</u>				
		QI = Industrial (Standard)				
		QS = Custom Specification				
A unique part number will be generated for each product specification, i.e:						
20xxxx-ML01		1'000 pcs (in 16mm tape on 7" reel)				
20xxxx-PL02		2'000 pcs (in 16mm tape on 13" reel)				
20xxxx-DA00		xxx pcs (in foam tray)				
Please contact us.						

All specifications subject to change without notice.



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